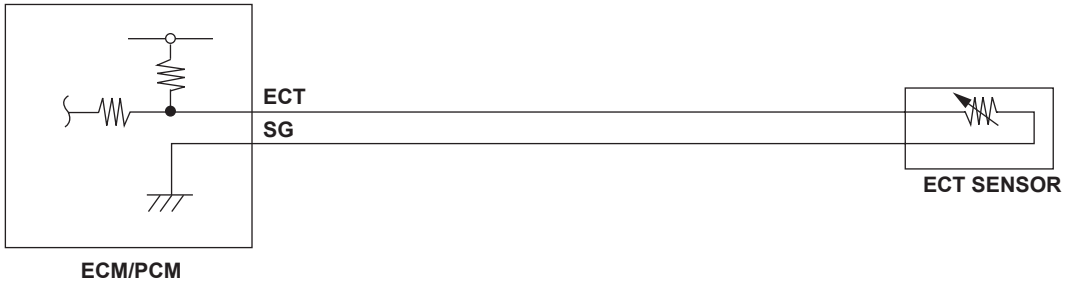
DTC P0117: Engine Coolant Temperature (ECT) Sensor Circuit Low Voltage



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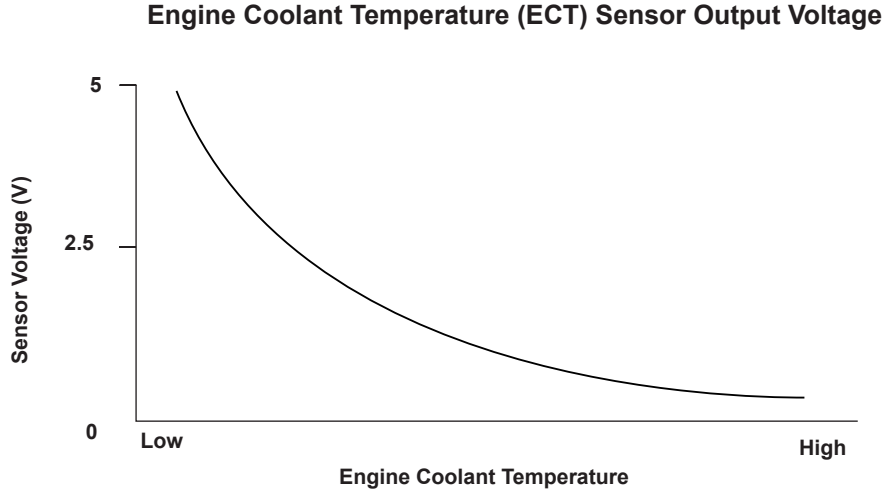

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General Description

The engine coolant temperature (ECT) sensor is a thermistor installed in the engine cylinder head. The engine control module (ECM)/powertrain control module (PCM) supplies voltage to the ECT signal circuit (about 5 V) through a pull-up resistor. As the engine coolant cools, the ECT sensor resistance increases, and the ECM/PCM detects a high signal voltage. As the engine coolant warms, the ECT sensor resistance decreases, and the ECM/PCM detects a low signal voltage. If the ECT sensor output voltage is less than a set value when the engine coolant temperature is high, the ECM/PCM detects a malfunction and a DTC is stored.

Monitor Execution, Sequence, Duration, DTC Type

Execution	Continuous
Sequence	None
Duration	2 seconds or more
DTC Type	One drive cycle, MIL ON

Enable Conditions

Condition	
Ignition switch	ON
No active DTCs	ECT

Malfunction Threshold

The output voltage from the ECT sensor is 0.08 V or less for at least 2 seconds.

Diagnosis Details

Conditions for illuminating the MIL
When a malfunction is detected, the MIL comes on and the DTC and the freeze frame data are stored in the ECM/PCM memory.

Conditions for clearing the MIL
The MIL will be cleared if the malfunction does not recur during three consecutive trips in which the diagnostic runs. The MIL, the DTC, and the freeze frame data can be cleared by using the scan tool Clear command or by disconnecting the battery.